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New Hampshire Code of Administrative Rules
Env-Ws 378

**Readopt with amendments Env-Ws 378, effective 12-24-92 (Doc. #5541), as amended effective 6-4-97 (Doc. #6521), [which amended Env-Ws 378.06(g) and Env-Ws 378.09(c)(1)-(c)(6)], as amended effective 12-24-98 (Doc. #6920), [which readopted as an interim rule Env-Ws 378 not including the amendments in Doc. #6521], to read as follows:**

PART Env-Ws 378 SITE SELECTION OF SMALL PRODUCTION WELLS FOR COMMUNITY WATER SYSTEMS

Statutory Authority: RSA 485:8 and RSA 485:48

Env-Ws 378.01 Purpose. The purpose of these rules is to establish procedures and standards for the development of new small production wells for community water systems in order to ensure that these wells will be capable of consistently producing an adequate supply of water that meets drinking water quality standards.

Env-Ws 378.02 Applicability. These rules shall apply to new small production wells that supply water to a community water system. They also contain requirements for deepening existing small bedrock production wells to regain lost well capacity.

Env-Ws 378.03 Definitions.

(a) "Acceptable water quality" means water that does not violate ambient groundwater quality standards established by RSA 485-C:6 or rules adopted pursuant thereto.

(b) "Applicant" means the supplier of water or their agent.

(c) "Aquifer parameter values" means values of parameters which describe the physical properties of the aquifer such as transmissivity and hydraulic boundary conditions.

(d) “Available drawdown” means the distance between the water level in the well casing and the uppermost productive water bearing zone, the pump intake, or the top of the screen, whichever distance is least.

(e) "Community water system" means "community water system" as defined in 485:1-a, I, namely "a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents."

(f) "Confined aquifer" means an aquifer in which groundwater is under pressures greater than the atmospheric pressure, which results in groundwater within a borehole rising to a level which is higher than the level at which water is first encountered and which receives negligible recharge from overlying deposits during pumping.

(g) "Conservative assumption" means an assumption made during analyses required for a new well siting which results in the larger wellhead protection area and/or lower permitted production volume.

(h) "Constant pumping rate" means a pumping rate that does not vary by greater than 5% after the first 6 hours of pumping.

(i) "Contamination" means the degradation of natural water quality as a result of human activities.

(j) "Contributing area" means "contributing area" as defined in RSA 485-C:2,IV. The term includes the area of land surface above the subsurface volume from which groundwater flows to a pumping well.

(k) "Department" means the department of environmental services.

(l) "Final report" means the report submitted to the department after the pumping test and water quality testing program is conducted at the proposed well site.

(m) "Groundwater" means "groundwater" as defined in RSA 485-C:2, VIII namely, "subsurface water that occurs beneath the water table in soil and geologic formations."

(n) "Known contamination" source means a land use from which contaminants are known to emanate and degrade groundwater quality.

(o) "New small production" well means:

(1) Any well that is not an active well on a community water system;

(2) Any well for a community water system whose design approval has lapsed;

(3) Any well which has been removed from monitoring responsibility in accordance with Env-Ws 321.17; or

(4) Any bedrock well that has been deepened to increase its approved well capacity.

(p) "Permitted production volume" means the maximum volume of groundwater allowed by the department to be withdrawn or pumped from a public water supply production well in a 24-hour period.

(q) "Porous media assumption" means groundwater flow that conforms to Darcy's Law, mainly flow through porous media which is laminar and of low velocity.

(r) "Potential contamination source" means human activities or operations that pose a risk that regulated contaminants might be introduced into the environment in such quantities as to degrade the natural groundwater quality. The term includes those land uses listed in RSA 485-C:7, II .

(s) "Preliminary report" means the report submitted to the department prior to conducting the pumping test and water quality programs at the proposed well site.

(t) "Production well" means a well designed and constructed to withdraw groundwater for a community water system.

(u) "Pumping test and water quality sampling program" means the well testing program which includes conducting the pumping test and water quality sampling and analysis.

(v) "Pumping test production rate" means the constant pumping rate that is maintained throughout a pumping test which is used to establish the permitted production volume.

(w) "Regulated contaminant" means "regulated contaminant" as defined in RSA 485-C:2, XIII namely "any physical, chemical, biological, radiological substance or other matter, other than naturally occurring substances at naturally occurring levels, in water which adversely affects human health or the environment."

(x) "Small bedrock production well" means a production well with a permitted production volume of less than 57,600 gallons and which is exposed to and draws water from any type of consolidated material.

(y) "Small community water system" means a public water system serving a population of 25-1000 persons without street hydrant fire protection.

(z) "Small overburden production well" means a production well with a permitted production volume of less than 57,600 gallons which is exposed to and draws water from any type of unconsolidated material, including but not limited to sand and gravel deposits. The term includes, but is not limited to, dug wells, tubular wells, well points, and gravel wells.

(aa) "Small production well" means a well that produces a permitted production volume of less than 57,600 gallons which is installed in either bedrock or overburden.

(ab) "Supplier of water" means a "supplier of water" as defined under RSA 485:1-a, XVI namely "any person who controls, owns or generally manages a public water system."

(ac) "Surface water" means "surface waters of the state" as defined in RSA 485-A:2, XIV, namely "streams, lakes, ponds and tidal waters within the jurisdiction of the state, including all streams, lakes, or ponds bordering on the state, marshes, water courses and other bodies of water, natural or artificial."

(ad) "Well" means any conveyance used to capture or withdraw water from the ground.

(ae) "Well capacity" means a well’s contribution to the total design flow under system design approval in accordance with Env-Ws 372 or Env-Ws 373.

(af) "Wellhead protection area" means "wellhead protection area" as defined in RSA 485-C:28, XVIII namely "the surface and subsurface area surrounding a water well or well field, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or well field" and shall include the contributing area for production wells which supply community water systems.

Env-Ws 378.04 Requirements for New Small Production Wells.

(a) Except for small bedrock production wells that are deepened to regain lost well capacity in accordance with Env-Ws 378.04(b) and Env-Ws 378.24, or where a waiver has been obtained for a particular requirement in accordance with Env-Ws 378.25, the applicant shall complete all of the following before connecting a new small production well to a community water system:

(1) Demonstrate that the well location complies with surface water related setbacks in accordance with Env-Ws 378.05;

(2) Demonstrate that the land use within the sanitary protective area shall be under direct control of the water system and that the area will be maintained in a natural state in accordance with Env-Ws 378.06;

(3) Prepare a preliminary estimate of the wellhead protection area for the well and propose a method for refining the estimate in accordance with Env-Ws 378.07;

(4) Prepare a preliminary contamination source and water use inventory in accordance with Env-Ws 378.08;

(5) Identify and evaluate any known sources of contamination in accordance with Env-Ws 378.09;

(6) Prepare a proposal for a pumping test and water quality sampling program in accordance with Env-Ws 378.10;

(7) Submit a preliminary report prepared in accordance with Env-Ws 378.11 to provide, before significant resources are expended, an early assessment of the appropriateness of the site for a community water supply well and to help ensure the work being proposed will be consistent with these and other department rules;

(8) Receive department approval or denial of the preliminary report in accordance with Env-Ws 378.12;

(9) Upon receipt of department approval of the preliminary report, perform the pumping test and water quality sampling program in accordance with Env-Ws 378.13;

(10) Demonstrate that under existing land use and aquifer conditions, acceptable water quality can be continuously delivered to the community water system provided that, for parameters which exceed secondary maximum contaminant levels under Env-Ws 310-319, treatment or other management techniques may be used if approved by the department in accordance with Env-Ws 340-349;

(11) Establish the permitted production volume in accordance with Env-Ws 378.14;

(12) Refine the wellhead protection area delineation in accordance with Env-Ws 378.15;

(13) Update and revise the contamination source and water use inventory in accordance with Env-Ws 378.16;

(14) Establish a contamination source control program in accordance with Env-Ws 378.17 for any known sources of contamination identified in accordance with Env-Ws 378.09;

(15) Establish a wellhead protection program in accordance with Env-Ws 378.18;

(16) Document that the construction of the well is in compliance with water well construction criteria in accordance with Env-Ws 378.19;

(17) Submit a final report to the department prepared in accordance with Env-Ws 378.20;

(18) Obtain approval or denial of the new well in accordance with Env-Ws 378.21; and

(19) After new well approval has been obtained, obtain approval to connect the new well to the community water system under Env-Ws 372 for small community water systems and Env-Ws 373 for all other community water systems.

(b) Prior to deepening a small bedrock production well to regain lost well capacity, the applicant shall submit a request to the department in accordance with Env-Ws 378.24. This activity shall be exempt from the requirements described in Env-Ws 378.04(a), above, unless the department denies the request to deepen the well in accordance with Env-Ws 378.24.

(c) Within one week of the new small production well being connected to the water system and operational, the applicant shall submit a written request for a chemical monitoring program for conducting ongoing monitoring and reporting in accordance with Env-Ws 320-339.

Env-Ws 378.05 Well Location Relative to Surface Water.

(a) A well shall not be placed within 50 feet of the high water line of any surface water.

(b) A well shall not be subject to flooding at the 100-year recurrence interval. The applicant may fill to elevate the wellhead and pumping station for flood protection purposes, provided that all required permits for placing of fill within wetlands and flood plains have been obtained.

(c) A description of the 100-year flood elevation, the floodplain location, and the nearby surface waters shall be provided in the preliminary and final reports.

Env-Ws 378.06 Sanitary Protective Area.

(a) The purpose of the sanitary protective area is to provide an area in the immediate vicinity of the well within which there is minimal risk of groundwater contamination.

(b) The sanitary radius area shall be a circle, centered on the well, with a radius based on the permitted production volume of the well as set forth in Table 378-1:

Table 378-1 Sanitary Protective Area Radii

| Permitted Production Volume (gallons) | Radius |
|---|---|
| less than 14,400 | 150 feet |
| 14,401 to 28,800 | 175 feet |
| 28,801 to 57,600 | 200 feet |
| 57,601 to 86,400 | 250 feet |
| 86,401 to 115,200 | 300 feet |
| 115,201 to 144,000 | 350 feet |
| greater than 144,000 | 400 feet |

(c) When more than one well is inside a sanitary protective area, then the individual sanitary protective areas for these wells shall be based on the combined permitted production volume of the wells unless it is proven they are not interconnected.

(d) The water supplier shall own the land within the sanitary protective area, provided however, that if the supplier does not own the land, the supplier shall control the land by perpetual easement.

(e) The sanitary protective area shall be maintained in a natural state except for structures and activities necessary for the maintenance of the well that do not pose a contamination risk to groundwater.

(f) The discharge of collected drainage from areas where fertilizer and pesticide have been applied or from roadways or developed areas shall be prohibited in the sanitary protective area.

(g) No underground utilities shall be installed in the sanitary protective area except for potable water and electrical or communications conduits.

(h) A description of land use activities and how the sanitary protective area is, or will be, controlled by the water supplier shall be presented in the preliminary and final reports.

(i) The description required by (h), above, shall include:

(1) A map that identifies lot lines and the owner of each lot into which the radius extends;

(2) The existing and proposed land uses and activities associated with the area;

(3) The means by which the water system will obtain and maintain control of land uses in the sanitary protective area; and

(4) A sketch of the well site within 500 feet of the well at a scale of one inch equals 100 feet, which shows:

a. The proposed well location;

b. All property lines and any easements;

c. All land uses, including any paths, trails, structures, storage, landscaping, or other alteration of the natural terrain;

d. Any surface water or wetlands; and

e. The sanitary protective area.

(j) Documentation of legal control the sanitary protective area shall be provided in the final report.

Env-Ws 378.07 Preliminary Estimate of the Wellhead Protection Area and Proposed Method for Refinement.

(a) The intent of estimating the wellhead protection area is to identify an area within which potential and known contamination sources should be evaluated to determine the appropriateness of the well site.

(b) An estimate of the wellhead protection area, submitted with the preliminary report, shall be derived as follows:

(1) For small overburden production wells, except those in confined aquifers, by drawing a circle with a 4000 foot radius around the well or, when sufficient data is available, by using the standard refinement method as specified in Env-Ws 378.07(d); and

(2) For small bedrock production wells and for small overburden production wells in confined

aquifers by drawing a circle with a radius around the well based on the proposed permitted production volume as set forth in Table 378-2:

Table 378-2 Wellhead Protection Area Radii

| Permitted Production Volume (gallons) | Radius (feet) |
|---|---|
| 0 to 7,200 | 1,300 |
| 7,201 to 14,400 | 1,500 |
| 14,401 to 28,800 | 2,050 |
| 28,801 to 43,200 | 2,850 |
| 43,201 to less than 57,600 | 3,600 |

(c) A map of the well location and estimated wellhead protection area, at a scale of 1:24,000 or 1:25,000, which is an original or a color copy of a United States Geologic Survey topographic map, shall be presented in the preliminary report. The title, scale, and date of the quadrangle shall be included on the map.

(d) The applicant shall propose, in the preliminary report, to perform a refinement of the estimated wellhead protection area for inclusion in the final report.

(e) The standard refinement method shall be used to refine the estimated wellhead protection area unless a pumping test has been performed that meets the requirements under Env-Ws 379, in which case the alternative method, as specified in (g) below, may be used.

(f) The standard refinement method shall be as follows:

(1) For overburden wells, except those in confined aquifers, the standard method shall be an analytical model which identifies the zone of contribution of the well under 180 days of continuous pumping without recharge from precipitation providing that the model's assumptions are not violated and that conservative estimates of aquifer parameters are used and the zone of contribution may be truncated at 4000 feet; and

(2) For small bedrock production wells and small overburden production wells in confined aquifers, the standard method shall be the same methodology as was used to estimate the wellhead protection area in accordance with Env-Ws 378.07 (b)(2).

(g) The alternative refinement method shall include analytical or numerical modeling which incorporates aquifer parameters derived from the pumping test that meets the requirements of Env-Ws 379, providing that the model's assumptions are not violated and conservative estimates of aquifer parameters are used. The use of models that rely on porous media assumptions shall only be allowed for use for a bedrock well if those assumptions are demonstrated to be valid for the well site.

Env-Ws 378.08 Preliminary Contamination Source and Water Use Inventories.

(a) Preliminary contamination source and water use inventories of the wellhead protection area shall be:

(1) Completed before the pumping test and water quality sampling program proposal required in accordance with Env-Ws 378.10 is developed;

(2) Included in the preliminary report;

(3) Revised and updated for the final report in accordance with Env-Ws 378.16; and

(4) Compiled from a search of the following information sources:

a. Records at the department;

b. Records at the municipality; and

c. A windshield survey of all properties within the wellhead protection area.

(b) The contamination source inventory shall:

(1) Identify and describe known and potential contamination sources in the wellhead protection area; and

(2) Include the following information for each known and potential source of contamination:

a. The site name and address;

b. The property owner's or operator's name, address, and telephone number;

c. For each known source of contamination, a description of the nature, extent and investigation, and remedial action status of the contamination; and

d. For each potential source of contamination, the type of potential contamination sources at the facility as defined in RSA 485 C:7, III.

(c) The water use inventory shall:

(1) Identify other water users that may be impacted by the new well, including private wells within 1000 feet, public wells, and registered water withdrawals in the estimated wellhead protection area; and

(2) Include the following information:

a. A description of each private well, assuming that all developed lots not served by a public water system have private wells, including:

1. The property address; and

2. The water uses observed during the windshield survey;

b. A description of each public well including:

1. The water system name and address;

2. The well's federal identification number; and

3. The average water use, in gallons per day; and

c. A description of each water withdrawal registered in accordance with Env-Wr 700, including:

1. The name and address of the withdrawer;

2. The type of use; and

3. The average water use.

(d) A map showing the location of the contamination sources and water users inventoried shall:

(1) Be presented in the preliminary and final reports; and

(2) Include the following information:

a. The wellhead protection area estimated for the proposed well;

b. An original or clear color copy of the United States Geological Survey topographic quadrangle map at a scale of 1:24000 or 1:25000;

c. The title of the quadrangle;

d. The scale of the quadrangle; and

e. The date of the quadrangle.

Env-Ws 378.09 Known Contamination Source Evaluation.

(a) The applicant shall review the applicable department site file(s) on each known contamination source identified in accordance with Env-Ws 378.08, to evaluate it's potential to degrade water quality at the wellhead.

(b) The applicant shall collect additional water quality samples and increase the duration of the pumping test to address contamination sources with the potential to degrade water quality at the wellhead.

(c) The applicant shall present, in the preliminary report, a description of how these sites will be addressed by the pumping test and water quality sampling proposal required in accordance with Env-Ws 378.10.

Env-Ws 378.10 Proposal for Pumping Test and Water Quality Sampling Program.

(a) The applicant shall present, in the preliminary report, a detailed proposal for:

(1) Performing water quality sampling; and

(2) Conducting either a standard pumping test or an alternate pumping test.

(b) The pumping test and water quality sampling program shall be conducted to gather the information necessary to:

(1) Demonstrate that the permitted production volume is sustainable;

(2) Demonstrate that acceptable water quality is attainable;

(3) Assess impacts;

(4) Perform and justify the use of any alternative methods for refining the wellhead protection area; and

(5) Demonstrate the system well capacity required by Env-Ws 370-377.

(c) Data collected from an alternate pumping test shall:

(1) Meet or exceed the requirements of the standard pumping test as specified in (d) below; and

(2) Be verified in the final report as appropriate for site conditions using pumping test data.

(d) A standard pumping test shall meet the following criteria:

(1) The pumping of and discharge from the system's wells shall be conducted as follows:

a. The new well and any other well being pumped as part of this test shall be operated continuously at a discharge rate that does not vary more than ±5% after the first 6 hours of pumping;

b. The system's other wells shall be operated as necessary to demonstrate system capacity requirements under Env-Ws 372 or Env-Ws 373, unless data are presented which show that these wells are not hydraulically connected to the new well;

c. The pumping test production rate shall produce at least the permitted production volume;

d. The discharge rate shall be:

1. Measured using a device capable of providing measurements accurate to within 5% of the discharge rate; and

2. Measured every 15 minutes for the first 2 hours and at least once every hour thereafter;

e. Discharge measurements shall:

1. Not be averaged over a period greater than one minute; and

2. Include at least two readings collected and recorded for each measurement; and

f. Pumped water shall be discharged outside the contributing area of operating wells so there is no effect on the aquifer's response to pumping;

(2) The pumping test shall be conducted for at least 48 hours;

(3) Cessation of the pumping test after 48 hours may occur under the following circumstances:

a. The water level in the pumping well fluctuates less than one inch in any 2 hours for a period of 12 hours; or

b. A theoretical 180-day draw-down does not exceed 90% of the total available drawdown at the time of the test or 5 feet, whichever is greater and is derived using

the following methodology:

1. Water level data shall be plotted as a semi-logarithmic plot of drawdown versus elapsed time, expressed in minutes elapsed since pumping began, presented on the logarithmic axis; and

2. A straight line shall be:

(i) Drawn through the data on the semi-logarithmic plot with a slope based on the data points from the end of the pumping period; and

(ii) Used to extrapolate the drawdown for a time of 180 days, 259,200 minutes, which shall be the theoretical 180-day drawdown;

(4) Water levels shall be measured as follows:

a. Water level measurements and time shall be recorded just before pumping begins and then, after pumping begins, every 5 minutes for the first hour, and at least once every hour thereafter;

b. Water level measurements shall be made using equipment capable of measuring to the nearest 0.01 foot for the water levels anticipated during pumping; and

c. Water levels in any 4 acre or smaller surface water within 150 feet of the operating wells shall be measured using a water level staff gauge and gauge readings shall be taken just before pumping starts and every 12 hours thereafter;

(5) The operating schedule and water levels in private and public wells within 500 feet shall be monitored if necessary to estimate the effect on these wells as required under Env-Ws 378.20(d);

(6) On-site precipitation data shall be collected for the period beginning one week preceding pumping through the recovery period; and

(7) On-site weather condition observations shall be recorded at least twice daily during pumping and recovery.

(e) When a standard pumping test is proposed, the proposal shall include the following:

(1) The proposed pumping test production rate;

(2) The methods, locations, and schedule for water level measurements;

(3) A site sketch showing, and text justifying, the discharge location;

(4) A site sketch showing the location of any surface water staff gauges and a description of their construction;

(5) A description of the method and equipment that will be used to ensure a constant pumping rate is maintained;

(6) A description of the discharge measurement method and schedule;

(7) A description of how any of the system's other wells will be operated while the new well is being tested;

(8) The anticipated operating schedule for nearby wells identified in Env-Ws 378.08(c);

(9) The anticipated pumping test duration and criteria for pump shut down; and

(10) The name, telephone number, and mailing address of the person responsible for making the determination to cease pumping.

(f) When an alternate pumping test is proposed, the proposal shall include:

(1) The information required pursuant to Env-Ws 378.10(b), above, for the standard pumping test; and

(2) Information demonstrating that the program will meet or exceed the requirements for the standard pumping test; and

(g) The water quality sampling proposal shall include a description of how the applicant will perform the following:

(1) Obtain one water sample from the well immediately prior to the cessation of pumping;

(2) Store and transport the sample bottles to the laboratory;

(3) Ensure that the water sample is analyzed:

a. For those contaminants required by Env-Ws 310-319; and

b. By a laboratory which:

1. Has a current New Hampshire certification for all applicable drinking water

categories;

2. Uses approved drinking water methods; and

3. Achieves all required method detection limits in accordance with Env-C 300; and

(4) For well sites with specific water quality concerns including those related to known or potential contamination sources, perform additional sampling and analyses to ensure acceptable water quality.

Env-Ws 378.11 Preliminary Report.

(a) A preliminary report, which shall provide a preliminary assessment of the appropriateness of the well site, shall be prepared and submitted to the department in writing.

(b) The preliminary report shall contain the following:

(1) The information and materials required in accordance with Env-Ws 378.05-378.10;

(2) The name of the project and a project description that includes:

a. The names, mailing addresses, and telephone numbers of the following individuals:

1. The water system owner;

2. The owner of the well site;

3. The person responsible for responding to questions from the department regarding the preliminary report; and

4. The person responsible for performing the pumping test and water quality sampling program; and

b. A description of:

1. Who is or will be served by the system; and

2. Why a new well is being sited;

(3) The well capacity requirements for the system established in accordance with Env-Ws 370-377, a proposed permitted production volume for the project, and a description of how

these values were derived; and

(4) A description of the current use and 50 year history of the property where the new well is to be located.

Env-Ws 378.12 Criteria and Procedures for Approval or Denial of the Preliminary Report.

(a) The department shall approve or deny the preliminary report in writing within 30 days.

(b) The department shall approve the preliminary report upon determining that the following criteria are met:

(1) The report contains all information required in Env-Ws 378.11; and

(2) The information contained in the report is complete and correct.

(c) The department shall deny the preliminary report upon determining that the following criteria are met:

(1) The report does not contain all information required by Env-Ws 378.11; and

(2) The information contained in the report is incomplete or incorrect.

(d) The department shall advise the applicant not to proceed further in the well siting process if information concerning known contamination sources evaluated in accordance with Env-378.09 indicates that an adequate contamination control program can not be implemented to prevent degradation of water quality at the well.

(e) The department shall advise the applicant if a waiver will be required from specific requirements based on the preliminary report information.

Env-Ws 378.13 Performing the Pumping Test and Water Quality Sampling.

(a) The pumping test shall be performed in accordance with the pumping test proposal approved in the preliminary report unless department approval is obtained to alter the pumping test program.

(b) The department shall be notified of the anticipated start date of the pumping test, at least one week prior to the start of testing.

(c) The pumping test shall be postponed or prolonged if high recharge conditions prohibit the ability to use test data to meet the intent of this rule. This determination shall be made based on site specific conditions at the time of testing. Where postponing or prolonging the test is not feasible, justification shall be provided to

the department and data adjusted using conservative assumptions to reflect average conditions.

(d) The water quality sampling shall be performed in accordance with the proposal contained in the preliminary report unless department approval to alter the proposal is obtained.

(e) The pumping test and water quality sampling performed shall be described in the final report.

Env-Ws 378.14 Establishing the Permitted Production Volume.

(a) The permitted production volume shall be demonstrated by the constant rate pumping test completed in accordance with Env-Ws 378.13.

(b) The permitted production volume shall be the volume produced by pumping at the pumping test production rate for 24 continuous hours.

(c) The actual rate at which water is withdrawn from an approved well may vary provided the permitted production volume shall not be exceeded.

(d) The permitted production volume shall correspond with the sanitary protective area for the well.

Env-Ws 378.15 Wellhead Protection Area Refinement.

(a) The estimated wellhead protection area presented in the preliminary report shall be refined by the method described in the preliminary report unless department approval to alter the proposal is obtained.

(b) The proposal to alter the method of wellhead protection area refinement shall be approved by the department if the method used results in a wellhead protection area that is technically equal to, or better than, the wellhead protection area that the original method would have produced.

(c) The refinement performed shall be documented in the final report.

Env-Ws 378.16 Contamination Source and Water Withdrawal Inventory Update and Revision.

(a) The preliminary inventories of contamination sources and water withdrawals shall be updated and revised in the following manner:

(1) If less than 3 months has elapsed since the preliminary inventories were completed, the applicant shall contact the department to determine if there are any new sites located in the refined wellhead protection area and, if there are, shall add these sites to the inventory in the final report; or

(2) If more than 3 months has elapsed since the preliminary inventory was completed, the

applicant shall repeat all the same procedures performed for the preliminary inventory in accordance with Env-Ws 378.08.

(b) The updated inventory shall be included in the final report.

Env-Ws 378.17 Contamination Control Program.

(a) The applicant shall establish a contamination control program which minimizes the risk of contamination from known sources of contamination.

(b) The program shall include provisions and a schedule for remediation and/or monitoring of residual contamination from all known contamination sources in the wellhead protection area to ensure that contamination will not reach the well. A known contamination source in compliance with the conditions of a groundwater management permit, issued in accordance with Env-Ws 1403, shall constitute an adequate control program.

(c) A description of the contamination control program and supporting evaluations and documentation shall be provided in the final report.

Env-Ws 378.18 Wellhead Protection Program.

(a) The applicant shall establish a wellhead protection program which shall include:

(1) Updating the contamination source inventory required in accordance with Env-Ws 389.16 at intervals no greater than 3 years;

(2) Sending groundwater protection educational material that the department has developed or approved to all persons residing in the wellhead protection area within 3 months of department approval of the well and at intervals no greater than 3 years thereafter;

(3) Sending the following information to each municipality in the wellhead protection area:

a. A description of the program and its purpose;

b. A copy of the wellhead protection area map;

c. An explanation and identification of the material being distributed pursuant to (2) above; and

d. The name and telephone number of the water supplier, and a contact at the department, to whom questions can be referred; and

(4) Providing documentation to the department each time the educational material has been distributed, which includes the date the distribution was completed and the name, signature and title of the person responsible for completing the distribution.

(b) A description of the wellhead protection program shall be presented in the final report, including:

(1) A statement of who is responsible for implementing the wellhead protection program including the following:

a. Name and title;

b. Mailing address; and

c. Telephone number;

(2) A statement as to how frequently the inventory will be updated;

(3) A statement as to when the educational materials will be sent and to whom; and

(4) A copy of the education material.

Env-Ws 378.19 Construction Design. The construction of the wellhead shall comply with We 600 and We 700. A copy of the well completion report prepared in accordance with We 800 shall be included in the final report.

Env-Ws 378.20 Final Report. The final report submitted for department approval shall contain all the information and material required in accordance with Env-Ws 378.05-378.19 including the following:

(a) The project description required in the preliminary report in accordance with Env-Ws 378.11 with updates and revisions that reflect changes in the project;

(b) A description of the pumping test including the following:

(1) The data collected;

(2) A description of how each of the pumping test requirements in Env-Ws 378.10 were met;

(3) Identification and description of pumping test cessation in accordance with Env-Ws 378.10; and

(4) If an alternate pumping test was performed, all data and analyses as proposed in the preliminary report;

(c) A description of the water quality sampling including the following:

(1) A report of the laboratory results for water quality;

(2) A description of water quality sample collection and transport methods, dates and times;

(3) A copy of current State of NH laboratory certification(s) issued to the laboratory(s) performing the analysis; and

(4) Identification of any subcontracted analyses, subcontracted laboratories and a copy of their state certification;

(d) A proposed permitted production volume and a description of the means by which it this was established in accordance with Env-Ws 378.14;

(e) An estimate of the effect pumping the permitted production volume from the well will have on the following:

(1) Water levels in private and public wells within 1000 feet;

(2) Water levels in nearby surface waters;

(3) Existing groundwater contamination plumes; and

(4) Saltwater intrusion into the freshwater aquifer; and

(f) Where a secondary maximum contaminant level is exceeded, a copy of department approval for a treatment or other management plan in accordance with Env-Ws 310-330.

Env-Ws 378.21 Criteria for Approval or Denial of New Wells.

(a) Notwithstanding Env-Ws 378.21(b) and (c) below, upon determining that the report required in accordance with Env-Ws 378.20 contains all the required information, that it is complete and correct and that all specified requirements of Env-Ws 378 and We 600 have been met, the department shall approve the well and notify the applicant in writing within 30 days of receiving the final report.

(b) If the final report is deficient in any of the criteria in Env-Ws 378.21(a), above, the applicant shall be so notified in writing within 30 days of receiving the final report.

(c) The proposed well shall be denied under the following conditions:

(1) One or more contamination source is present in the wellhead protection area and the

contamination control program prepared in accordance with Env-Ws 378.17 does not ensure that contamination will not degrade water quality at the well;

(2) If the applicant failed to construct the wellhead in accordance with We 600; or

(3) If the applicant failed to perform any activity or meet any of the requirements contained in these rules.

Env-Ws 378.22 Increasing the Permitted Production Volume.

(a) A well shall not be pumped at a rate which results in exceeding the permitted production volume determined in accordance with Env-Ws 378.14 without prior written approval from the department.

(b) A request to increase the permitted production volume shall require the submission of the same information necessary for approval of a new well, and compliance with this chapter.

Env-Ws 378.23 Reducing the Wellhead Protection Area.

(a) A wellhead protection area determined in accordance with Env-Ws 378.15 shall not be reduced in size without prior department approval.

(b) A request to reduce the wellhead protection area shall be based on data analysis from a pumping test that meets the intent of the alternate pumping test program in accordance with Env-Ws 378.10 or other appropriate site specific data.

Env-Ws 378.24 Deepening a Small Bedrock Production Well to Regain Lost Well Capacity.

(a) Subject to (b) below, applicants proposing to deepen a well to regain lost well capacity and meet the water supply requirements previously established pursuant to Env-Ws 372 or Env-Ws 373 shall comply with this section.

(b) Applicants proposing to deepen a well to regain lost well capacity in order to expand the water system or increase the yield beyond that previously established pursuant to Env-Ws 372 or Env-Ws 373, shall comply with all requirements for new wells as specified in Env-Ws 378.04(a).

(c) The applicant shall submit a request, in writing, to the department which contains the following information:

(1) A description of the project including;

a. The applicant(s) name, address, and phone number;

b. The consultant(s) name, address, and phone number, if applicable,;

c. The water systems's name;

d. The federal identification number for the well; and

e. The water supply requirements for the system established during design approval in accordance with Env-Ws 372 or Env-Ws 373;

(2) A description of the sanitary protective area and any measures to be taken to achieve compliance with Env-Ws 378.06;

(3) A description of the well in relation to the 100-year flood plain and any measures, if applicable, to be taken to elevate the wellhead; and

(4) A description of current water quality.

(d) The department shall approve or deny a request to deepen a small bedrock production well to replace lost well capacity within 30 days of receiving a complete request.

(e) The department shall approve the request to deepen an existing small bedrock production well provided:

(1) The information submitted is complete and correct; and

(2) The applicant demonstrates all of the following:

a. The project is necessary to meet approved well capacity and will not be used to expand the water system or for water use beyond the approved well capacity;

b. The well will not be subject to flooding at the 100-year recurrence interval;

c. The sanitary protective area requirements established in Env-Ws 378.06 are met or improvements shall be made that will reduce the risk of contamination at the wellhead; and

d. There is no contamination in the vicinity of the well that is likely to reach the wellhead as a result of the increase in withdrawal.

(f) If the department denies a request to deepen a well because the applicant fails to demonstrate conditions listed in 378.24(e), above, the applicant shall meet all requirements for new wells described in Env-Ws 378.04(a) prior to deepening the well.

Env-Ws 378.25 Waivers.

(a) The rules contained in this part apply to a variety of conditions and circumstances. It is recognized that strict compliance with all rules prescribed herein might not fit every conceivable situation. Suppliers of water may request a waiver of specific rules outlined in this part in accordance with paragraph (b) below.

(b) All requests for waivers shall be submitted in writing to the department and shall include the following information:

(1) A description of the site to which the waiver request relates;

(2) A specific reference to the section of the rule for which a waiver is being sought;

(3) A full explanation of why a waiver is necessary and demonstration of hardship caused if the rule is adhered to;

(4) A full explanation of the alternatives for which a waiver is sought with backup data for support; and

(5) A full explanation of how the alternatives for which a waiver is sought:

a. Are consistent with the intent of RSA 485:8 and RSA 485:48;

b. Would have a just result; and

c. Would adequately protect human health and the environment.

(c) The department shall approve a request for a waiver if it finds that the alternatives proposed are at least equivalent to the requirements contained in this part, and are adequate to ensure that the provisions of RSA 485:8, and RSA 485:48 are met.

(d) The department shall not grant any waiver which in its judgement contravenes the intent of any rule.

(e) The department shall issue a written response to a request for a waiver within 30 days of a complete request. If the waiver is denied, the denial shall specifically set forth the reason(s) for the denial.